



# Colcemid Solution

Colcemid Solution for in vitro diagnostic use is intended for chromosome analysis

Cat. No.: 12-004-1D  
Store at: 2-8°C  
10µg/ml in DPBS

## Instructions for Use

### Product Description

N-deacetyl-N-methylcolchicine (demecolcine, colcemid) is related to colchicine but it is less toxic <sup>(1)</sup>. Colcemid depolymerises microtubules, limits microtubules formation and inactivate the spindle fiber mechanism during metaphase. Colcemid binds tubulin rapidly in comparison to colchicine which binds tubulin relatively slowly <sup>(2)</sup>. Colcemid is used in chromosome analysis during lymphocyte karyotyping and in amniotic fluid cell chromosome analysis by preventing spindle formation during mitosis, causing metaphase arrest. Metaphase is the optimum phase of mitosis for microscopically visualizing the chromosomes. By treating cells with a hypotonic solution and a series of fixation steps, metaphase chromosomes can be microscopically observed and analyzed.

### Precaution and Disclaimer

- Do not use if a visible precipitate is observed in the solution.
- Colcemid Solution is mutagenic, tumorigenic, embryotoxic and teratogenic. Read SDS carefully before use.

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### Storage and Stability

Colcemid Solution should be stored tightly closed at 2-8°C. Protect the solution from light.  
Shelf Life: Refer to product label for expiration date.

### Instructions for Use

#### Suggested Procedure

- Chromosome Analysis  
Amniotic fluid cells, Peripheral blood and bone marrow cells after initial cultivation. Colcemid Solution arrests mitotic cells in metaphase.  
Suggested concentration is 0.1-0.2µg/ml.
- Cell Synchronization  
Colcemid Solution aids in determining the mitotic activity index for cell synchronization studies. Colcemid has been shown to inhibit HeLa and CHO cells at concentrations of 0.05 – 0.5µg/ml.

### Auxiliary Products

Product	Cat. No.
PB Karyotyping medium, with PHA-M	01-201-1
PB Karyotyping medium, w/o PHA-M	01-198-1
PHA-M	12-009-1
Bone Marrow Karyotyping Medium	01-199-1
Hematopoietic Cell Karyotyping Medium	01-200-1

### References

- T. T. Puck. *Studies of the Life Cycle of Mammalian Cells.* Cold Spring Harbor Symposia. Vol. 29, pp. 167-176 (1964).
- K. Ray et al, *Anion-induced increases in the affinity of colcemid binding to tubulin, European journal of biochemistry, Vol. 142, pp. 577-581 (1984).*